

PATENT

Agent's Docket No. 15904-US

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of	)	
	)	
PANUNTO, John P. et al.	)	
	)	
Serial No: 10/660,533	)	Art Unit: 3653
	)	
Filed: 09/12/2003	)	Examiner: MORRISON, Thomas A.

For: **LARGE CAPACITY BOTTOM FEED DISPENSER**

April 24, 2007

Box Appeal Brief – Patents  
Commissioner for Patents  
P.O. Box 1450  
U.S. Patent and Trademark Office  
Alexandria, Virginia 22313-1450

**Response to Notification of Non-Compliant Brief**

This is in response to the notification of non-compliant brief mailed 04/03/2007.

Applicant is re-submitting the Appeal Brief filed on 09 February 2007. The Brief has been amended so that the following headings read as follows: 6. Grounds of Rejection to be reviewed on appeal, and 7. Argument. The “Grouping of Claims” heading has been omitted.

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For: **LARGE CAPACITY BOTTOM FEED DISPENSER**

April 13, 2007

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**APPELLANT'S APPEAL BRIEF**

This brief is in support of a Notice of Appeal filed in the above-identified application on December 12, 2006, to the Board of Patent Appeals and Interferences appealing the Final Office Action dated June 15, 2006.

**DEPOSIT ACCOUNT AUTHORIZATION**

The fee for filing this Appeal Brief is \$250 for a small entity. It is believed that no extension of time is required. The Commissioner is hereby authorized to charge Deposit Account No. 13-1717 for any fees required by this paper and not otherwise paid for.

### **1. Real Party in Interest**

The rights in this application are assigned to PSI Peripheral Solutions Inc. 3535 Laird Road, Mississauga, Ontario, Canada, L5L 5Z4.

### **2. Related Appeals and Interferences**

None.

### **3. Status of Claims**

Claims 2 to 6, 8 to 10 and 12 to 13 remain for consideration in this application. Claims 2 to 6, 8 to 10 and 12 to 13 have been examined and rejected in a Final Office Action mailed June 15, 2006. A copy of the claims on appeal is included as the claims appendix. The claims in the claims appendix are those examined in the Final Office Action.

### **4. Status of Amendments**

In the Final Office Action mailed June 15, 2006, the Examiner raised formal objections to claims 2-6, 8-10, 12-13. In the response of September 14, 2006, Appellant amended claims 9 and 13 to address these objections. In particular, claim 9 was amended such that "said discharge chute" read - -said discharge end- -, and claim 13 was amended to identify each "nip" as either a - -first- - or - -second- - nip, and such that the expression "the single flat media elements" read - -the separated media elements- -. The Examiner rejected entry of these amendments in the Advisory Action mailed September 29, 2006.

Appellant submits that the Examiner improperly rejected entry of these amendments. These are clarifying amendments only and do not constitute a new issue. The amendments put the claims in better form for appeal.

In this Appeal Brief, Appellant is submitting arguments relating to the substantive issues at hand and has included in the claims appendix the claims as examined in the Final Office Action, but still respectfully requests that the amendments of Applicant's response of September 14, 2006 be entered.

### **5. Summary of claimed subject matter**

Referring to Figures 1 and 3, the present invention relates to a bottom feed dispenser 10 for dispensing flat media stored in a media bin 12 to a discharge chute along a feed path. The dispenser can be used for any type of media as disclosed in paragraph [0026] of the present description. However, this dispenser is specifically designed to handle heavy items, such as catalogues. The weight of such items generally makes it very difficult to feed them singly off the bottom of a stack. Prior art attempts have generally resulted in multiple items being drawn off the stack together rather than singly. In accordance with the principles of the invention, as described in detail below, rather than attempting to singulate the items in a first step, a first coarse separation is carried out, wherein the items are laid out on a conveyor in an overlapping relationship, and this is followed by a second separation wherein the overlapping items are separated into single elements.

The invention provides a driven rear conveyor 16 extending under the bottom end of the media storage bin 12 which carries away flat media elements from the bottom of the stack in a flat shingled relationship. A coarse media separator 14 comprising a first nip roller 26 defining a first nip with the rear conveyor 16 cooperates with the rear conveyor 16 to feed media elements off the bottom of the stack on said rear conveyor in a flat shingled relationship. A single media separator 18 downstream of the rear conveyor has a second nip roller 22 which receives flat shingled media elements from the rear conveyor 16 and separates the media elements into single flat media elements. Finally, a transport conveyor 22 carries the single flat media elements from the front conveyor 20 to the discharge end 24.

Referring to Figure 2, a first height adjustment mechanism sets a first vertical spacing between the first nip roller 26 and the rear conveyor 16. Referring to Figure 4, a second height adjustment mechanism sets a second vertical spacing between the second nip roller 28 and the front conveyor 20. In this way, the dispenser can be used for not only sheet-like media, but large sized media.

The rear conveyor 16 travels at a velocity  $V_R$ , the front conveyor 20 travels at a velocity  $V_F$ , and the transport conveyor 22 travels at a velocity  $V_T$ .

Referring again to Figure 3, there are also three sensors 30, 32 and 34 along the feed path to provide signals to control the  $V_R$ ,  $V_F$  and  $V_J$ , so that the media are passed along the feed path with adequate gaps therebetween.

## 6. Grounds of Rejection to be Reviewed on Appeal

Issue 1: Whether claim 13 is patentable over U.S. Patent 4,978,114 (Holbrook) in view of U.S. Patent 5,641,155 (Bridges) and further in view of U.S. Patent 6,550,764 (Wilson et al.) under 35 U.S.C. § 103(a).

Issue 2: Whether claims 2 to 6, 8 to 10 and 12 are patentable over U.S. Patent 4,978,114 (Holbrook) in view of U.S. Patent 5,641,155 (Bridges) and further in view of U.S. Patent 6,550,764 (Wilson et al.) under 35 U.S.C. § 103(a).

For each ground of rejection which Appellant contests herein which applies to more than one claim, such additional claims to the extent separately identified and argued below, do not stand or fall together.

## 7. Argument

**Issue 1: Whether claim 13 is patentable over U.S. Patent 4,978,114 (Holbrook) in view of U.S. Patent 5,641,155 (Bridges) and further in view of U.S. Patent 6,550,764 (Wilson et al.) under 35 U.S.C. § 103(a).**

A *prima facie* case of obviousness requires that the prior art references (or references when combined) must teach or suggest all the claim limitations. MPEP § 2143.

Claim 13 is an independent claim which recites:

“a second height adjustment mechanism for setting a second vertical spacing between the second nip roller and the front conveyor to allow said media elements to pass through said nip one at a time as separated media elements”.

Claim 13 also recites the presence of:

“a first sensor responsive to the presence or absence of a media element at the discharge end to stop operation of the transport conveyor; a second sensor responsive to the presence or absence of a media element on the transport conveyor to stop operation of the front conveyor; and a third sensor responsive to the presence or absence of a media element at an input to the front conveyor to stop operation of the rear conveyor.”

Appellant submits that the cited art does not teach or suggest all the claim limitations, as is required by MPEP § 2143. In particular, Holbrook and Bridges, either alone or in combination, do not teach or suggest a second height adjustment mechanism to allow media elements to pass through one at a time as separated media elements, and Holbrook and Wilson et al., either alone or in combination, do not teach or suggest the sensor arrangement of present claim 13.

A. Holbrook and Bridges, either alone or in combination, do not teach or suggest the second height adjustment mechanism to allow media elements to pass through one at a time as separated media elements as recited in claim 13.

Holbrook discloses a dispenser which is useful for sheet-like articles, such as envelopes (see column 1, lines 37 to 41). There is no need or desire in Holbrook for height adjustment of rollers 169 and 217. In fact, Holbrook teaches that springs 235 and 241 urge the rollers of the first and second frames 161 and 185, respectively, downwards against the conveyor deck (see Abstract).

In rejecting claim 13, the Examiner concedes that Holbrook does not teach or suggest a second height adjustment mechanism (see page 4, third paragraph of Final Office Action mailed June 15, 2006) from which it must follow that Holbrook lacks the feature recited in claim 13 of a second height adjustment mechanism to allow media elements to pass through one at a time as separated media elements. It is this feature that permits the present invention to enjoy the advantage of being useful in separating even large-sized media elements. However, the Examiner seeks to combine Bridges with Holbrook to produce the second height adjustment mechanism of claim 13. The Examiner has argued that it would be obvious for one skilled in the art to modify Holbrook to include a single media separator with a second height adjustment mechanism in view of Bridges.

Bridges discloses a prefeeder that conveys media in a stack therethrough for further processing. Bridges teaches that a nip adjustment knob 44 is used to deliberately set the distance that the roller 17 can move upward. There is no indication in Bridges of what the further processing of the media stack entails.

Clearly the references when combined do not teach or suggest all the claim limitations of claim 13. Both references fail to teach or suggest use of a second height



adjustment mechanism to separate media elements. Neither reference teaches, suggests or even appreciates the advantage of having such a second height adjustment mechanism to permit large-sized media elements to be singulated as does the present invention.

Holbrook discloses that roller 169 (analogues to the coarse media separator of claim 13) and roller 217 (analogues to the single media separator of claim 13) are urged downwards. It certainly teaches away from the rollers being height adjustable. "Prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention." *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 220 U.S.P.Q. 303 (Fed. Cir. 1983).

Bridges is only directed to a prefeeder that conveys media in a stack therethrough for further processing. The prefeeder of Bridges is analogous to the coarse media separator of present claim 13, not to the single media separator. There is no teaching or suggestion of a second height adjustment mechanism to allow media elements to pass through one at a time as separated media elements as recited in present claim 13.

Accordingly, it is submitted that since each reference fails to teach or suggest a dispenser having a second height adjustment mechanism as recited in present independent claim 13, that a combination of Holbrook and Bridges cannot teach or suggest the same feature.

B. Holbrook and Wilson et al., either alone or in combination, do not teach or suggest the sensor arrangement of present claim 13.

The Examiner has also argued that it would have been obvious to combine the teachings of Wilson et al. with Holbrook to arrive at the first, second and third sensor arrangement as claimed in present claim 13.

The Examiner has stated that Wilson et al. teach controlling the speed of belt 18 of input feed 17, aligner 31 and second singulator feed assembly 50 to better enforce gap size between documents.

In Holbrook, the envelopes travel from station 2 along driven rollers 10 to belt 6. Along belt 6, they are input to singulator station 4 comprising first frame 161 and second frame 185. Roller 169 of the first frame 161 receives the envelopes along belt 6 which are then input to roller 217 of second frame 185 and finally output along belt 6 for further processing downstream to stations 8 and 9. Each of the first frame 161 and second frame

185 are pivotally mounted to shaft 173. It is specifically taught that the separation between stations 2, 4, 8 and 9 “is less than the length of the smallest envelope processable by the feeder 1” (see column 2, lines 34 to 36).

Therefore, in Holbrook there is no teaching or suggestion that the speed of the envelopes can be variable as they are input to and output from the singulator station 4. In fact, during the entire process the envelopes only travel along a single belt, namely belt 6. Further, motor 11 controls both shaft 173 and belt 6, so the belts of the first and second frames and belt 6 are all simultaneously controlled.

Appellant submits then that the teachings of Holbrook and Wilson et al. are so divergent, that one skilled in the art would not combine the teachings to arrive at the sensor arrangement of claim 13. “It is improper to combine references where the references teach away from their combination.” *In re Grasselli*, 713 F.2d 731, 743, 218 USPQ 769, 779 (Fed. Cir. 1983).

**Issue 2: Whether claims 2 to 6, 8 to 10 and 12 are patentable over U.S. Patent 4,978,114 (Holbrook) in view of U.S. Patent 5,641,155 (Bridges) and further in view of U.S. Patent 6,550,764 (Wilson et al.) under 35 U.S.C. § 103(a).**

Dependent claims 2 to 6, 8 to 10 and 12 depend either directly or indirectly from independent claim 13, and include all of the limitations of its respective parent claim. Therefore, the dependent claims are believed to be distinguishable over the cited references for at least the same reasons as those given to the respective parent claims.

### **Summary**

The invention defined by claim 13 is a novel and unobvious bottom feed dispenser that permits even large sized media elements to be singulated. This is achieved by use of a single media separated having a second height adjustment mechanism to allow media elements to pass through one at a time as separated media elements. Further, first, second and third sensor arrangements are used to track and control the speed of the various conveyors.

None of the cited documents teach or suggest a second height adjustment mechanism to allow media elements to pass through one at a time as separated media elements as claimed in claim 13. Also, none of the cited documents teach or suggest a



sensor arrangement as claimed in claim 13. Accordingly, even a combination of these references can teach or suggest every element of claim 13 as required by MPEP 2143.

### **Conclusion**

The Examiner has not met the conditions needed to establish a prima facie case of obviousness under 35 U.S.C. § 103(a). The Examiner has not provided a combination of references that would result in the invention as claimed. A decision reversing the Examiner's rejection is respectfully requested.

Respectfully submitted,



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## Claims Appendix

1. (cancelled)
2. (previously amended) The dispenser of claim 13, wherein  $V_F > V_R$ , and  $V_T \geq V_F$ .
3. (original) The dispenser of claim 2, wherein said media storage bin is arranged vertically or is inclined rearwardly at an angle less than  $30^\circ$  from the vertical.
4. (original) The dispenser of claim 2, wherein each of said rear and front conveyors comprises at least two parallel conveyor belts.
5. (original) The dispenser of claim 2, wherein said transport conveyor comprises upper and lower conveyors each having at least two parallel conveyor belts arranged so that the distance between the upper conveyor and lower conveyor is sufficient to secure single media elements therebetween in driving relationship therewith.
6. (original) The dispenser of claim 2, wherein said media elements are chosen from the group consisting of: sheets of paper, pamphlets, booklets, brochures, catalogs, magazines, envelopes, CDs or DVDs in slip cases, CDs or DVDs in crystal cases or presentation cases, flyers, books, and, combinations thereof.
7. (cancelled)
8. (original) The dispenser of claim 2, wherein said first sensor operates to stop operation of said transport conveyor when it senses the presence of media thereat.
9. (previously amended) The dispenser of claim 8, further comprising a box ready sensor to sense when a receiver for media being discharged from said discharge chute is capable of receiving more media, and which operates to start operation of said transport conveyor when the receiver is capable of receiving more media.

10. (original) The dispenser of claim 8, wherein whenever said front conveyor starts its operation, said transport conveyor also starts its operation.

11. (cancelled)

12. (original) The dispenser of claim 2, wherein said rear conveyor comprises a plurality of conveyor belts arranged lengthwise along said dispenser, each being driven at said first linear velocity  $V_R$ .

13. (previously presented) A dispenser for dispensing flat media seriatim to a discharge end, comprising:

a media storage bin for storing a stack of flat media elements, the bin having a bottom end;

a driven rear conveyor extending under the bottom end of the media storage bin for carrying away flat media elements from the bottom of the stack in a shingled relationship wherein the flat media elements lie flat on the conveyor with the leading edge of one said media element overlying the trailing edge of a preceding said media element, the driven rear conveyor being driven intermittently at a first linear velocity  $V_R$ ;

a coarse media separator comprising a first nip roller defining a nip with the rear conveyor, said first nip roller cooperating with the rear conveyor to feed said media elements off the bottom of the stack onto said rear conveyor in said shingled relationship;

a first height adjustment mechanism for setting a first vertical spacing between the first nip roller and the rear conveyor to allow said media elements to pass through said nip in said shingled relationship;

a driven front conveyor downstream of said rear conveyor for receiving the flat media elements from the rear conveyor, the driven front conveyor being driven intermittently at a second linear velocity  $V_F$ ;

a single media separator comprising a second nip roller cooperating with said driven front conveyor to define a nip to separate said shingled media elements received from the rear conveyor into single media elements;

a second height adjustment mechanism for setting a second vertical spacing between the second nip roller and the front conveyor to allow said media elements to pass through said nip one at a time as separated media elements;

a transport conveyor for carrying the single flat media elements from said front conveyor to said discharge end, the transport conveyor being driven intermittently at a third linear velocity  $V_T$ ; and

a first sensor responsive to the presence or absence of a media element at the discharge end to stop operation of the transport conveyor;

a second sensor responsive to the presence or absence of a media element on the transport conveyor to stop operation of the front conveyor; and

a third sensor responsive to the presence or absence of a media element at an input to the front conveyor to stop operation of the rear conveyor.

## **Evidence Appendix**

None.

**Related Proceedings Appendix**

None.